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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/889,784	10/19/2001	Lennart Stridsberg	1291-0189P	7422

2292 7590 09/24/2003

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EXAMINER

ELKASSABGI, HEBA

ART UNIT PAPER NUMBER

2834

DATE MAILED: 09/24/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/889,784

Applicant(s)

STRIDSBERG, LENNART

Examiner

Heba Elkassabgi

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 03 April 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 16-19 is/are allowed.
- 6) ☒ Claim(s) 1-4, 6-15, 21-23 and 25 is/are rejected.
- 7) ☒ Claim(s) 5, 16-19, 20, 22, 24 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Priority***

Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). The certified copy has been filed in parent Application No. 09889784, filed on 07/20/2001.

### ***Specification***

The examiner withdraws the objection to the abstract due to applicant's amendment filed on 04/03/2003.

### ***Claim Rejections - 35 USC § 112***

The examiner withdraws the 35 USC § 112 due to applicant's amendment filed on 04/03/2003.

### ***Claim Objections***

The examiner withdraws the claim objection due to applicants amendment filed on 04/03/2003.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-4, 6-12, 14,21, and 23 rejected under 35 U.S.C. 102(b) as being anticipated by Spiesberger et al. (U.S. Patent 4031419).

Spiesberger et al. (U.S. Patent 4031419) discloses in Figures 1-5 an electromagnetic rotary actuator to be controlled by a single voltage and comprising a rotor (20) movable about an axis and having permanent magnets (20N, 20S) and a stator (21) carrying at least one winding and an air gap between facing surfaces of the permanent magnets (20) and the stator (21), the permanent magnets (20) being arranged to have flux lines extending in the air gap substantially in a radial direction from or towards the axis, characterized in that the stator (21) to have at least three pole teeth (2-7) made of a magnetically permeable material, in particular a soft-iron material, the at least one winding being applied around a central pole teeth (3,6) and the pole teeth (2,4,5,7) having end surfaces forming the facing surface of the stator (21) and thus facing surfaces of the permanent magnets (20N,20S) over the air gap and that the pole teeth are arranged with in an angle smaller than 225 degrees. In that the end surfaces of the pole teeth (2-7) are located around a central pole tooth and are close to the facing surfaces of the permanent magnets (20N, 20S) creating a small air gap, At least three pole teeth (2-7) carry winding. The actuator comprises five pole teeth (2-7), the rotor (20) and stator (21) poles have the same pitch, with an angular sector extending between the two outermost ends of the pole teeth (2-7) portions facing the air gap is longer and substantially equal than the sum of the peak to peak movement of the rotor (20) and an angular sector extending between the two outermost ends of the rotor magnet (20N, 20S) facing the air gap.

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*Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 13 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Spiesberger et al. (U.S. Patent 4031419) as applied to claim 1 above, and further in view of Morita (U.S. Patent 5798583).

Spiesberger et al. discloses all the limitations except for the stator pole carrying winding coils at a reduced height on places of the stator pole. Morita discloses in Figure 6 a stator core (42) having stator poles (45) that have a reduced height (44) on the pole (45) in which a coil winding is placed onto the reduced portion in order to decrease the size of the spindle motor and increase the capacity of the magnetic disk drive.

It would have been obvious to one of ordinary skill in the art to combine the actuator structure of Spiesberger et al. with that of the stator pole and winding structure of Morita in order to reduced portion in order to decrease the size of the spindle motor and increase the capacity of the magnetic disk drive.

Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Spiesberger et al. (U.S. Patent 4031419) as applied to claim 1 above, and further in view of Heine et al. (U.S. Patent 6201322).

Spiesberger et al. discloses all the limitations except for the phase voltage being of a single phase. Heine et al. discloses in Figure 9 of an actuator, in order to form a source of generating radial force.

It would have been obvious to one of ordinary skill in the art to combine the actuator of Spiesberger et al. with the actuator of Heine et al. that discloses an actuator of a single phase in order to generate radial force.

***Allowable Subject Matter***

The indicated allowability of claims 13 and 15 are withdrawn in view of the newly discovered reference to Morita (U.S. Patent 5798583). Rejections based on the newly cited reference as stated above in the 103 rejections.

Claim 5, 16-19, 20, 22, and 24, are allowed.

Claim 5, 20, 22 and 24 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. In regards to claim 5 and dependent claim 22 the prior art does not disclose the actuator comprising of exactly three pole teeth and the pole teeth are arranged within an angle. In regards to claim 20 the prior art does not disclose that an air gap is smaller than 0.3mm. In regards to claim 24 prior art does not disclose a stator with openings in a circumferential plane in which a portion of the rotor is exposed within the circumferential plane of the stator. In regards to claim 25 prior art does not disclose that a single voltage is

Claim 16 is allowed over the prior art, which does not disclose a resistance changer increases a resistance in series with the actuator winding when a longer electric time constant is

advantageous and reduces the resistance in series with the actuator winding when a shorter electric time constant is advantageous.

### ***Response to Arguments***

Applicant's arguments filed 04/03/2003, with respect to the rejections of claims 1 and 16 under USC 103 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground of rejection is made in view of Spiesberger et al. (U.S. Patent 4031419) and Tajima et al. (U.S. Patent 5432644). In response to applicants argument that Spiesberger et al. does not disclose that the poles 1, 8 do not have windings, the examiner would like to point out that the claim disclose that "a stator carrying at least one winding", which refers that not all poles must have windings and that Spiesberger et al. reads on the limitation. In response to Applicants arguments, of Spiesberger et al. not disclosing a single voltage and that Spiesberger et al. recites a stepping motor, those recitations has not been given patentable weight because it has been held that a preamble is denied the effect of a limitation where the claim is drawn to a structure and the portion of the claim following the preamble is a self-contained description of the structure not depending for completeness upon the introductory clause. *Kropa V. Robie*, 88USPQ 478 (CCPA 1951).

### ***Conclusion***

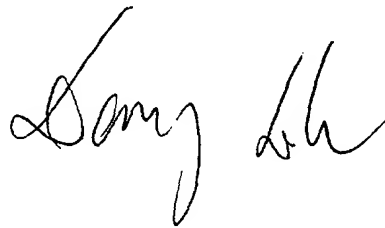
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Heba Elkassabgi whose telephone number is (703) 305-2773. The examiner can normally be reached on Monday through Thursday and alternate Fridays.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor Ramirez can be reached on (703) 308 1371. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308 0956.

HYE

A handwritten signature in black ink, appearing to read "Dangle".

DANGLE  
PRIMARY EXAMINER

9/9/03